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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/496,990 | 02/02/2000 | Man Pak Yip | 081862.P173 | 6948 |

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| EXAMINER | |
|---|---|
| BATES, KEVIN T | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2155 | |

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/496,990 | YIP ET AL. | |
| | Examiner | Art Unit | |
| | Kevin Bates | 2155 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *05 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

### *Response to Amendment*

This Office Action is in response to a communication made on July 5, 2006.

Claims 1, 13, 25, 37, and 49 have been amended.

Claims 1-60 are pending in this application.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1-60 is rejected under 35 U.S.C. 102(e) as being anticipated by Aboul-Magd (6490249).**

**Regarding claims 1, 13, 25, 37, and 49**, Aboul-Magd teaches an apparatus to control connection admission for a connection request in a network (Abstract, lines 1 – 4), the apparatus comprising:

a first estimator to estimate an equivalent cell rate (ECR) (Column 3, lines 38 – 40; Column 4, lines 56 – 60) based on description of the connection request (Column 1, lines 22 – 29), the description including a booking factor (Column 9, lines 58 – 60; line 64; Column 10, lines 5 – 10; were the ECR/EBR equations use overbooking and underbooking);

a second estimator to estimate a measured utilization factor for admitted connections the network using measurement of data streams (Column 3, lines 38 – 40; Column 5, lines 1 – 17) arriving at queues (Column 2, lines 41 – 42) and the booking factor (Column 6, lines 12 – 16; lines 31 – 35; lines 53 – 55); and

a controller coupled to the first and second estimators to generate an admission decision comprising: (Column 7, lines 30 – 58)

an additional request processor to generate the admission decision based on a request resource using the ECR and the booking factor (Column 7, lines 30 – 58), and a resource allocation rule using a hierarchical resource organization (Column 9, lines 24 – 28; 40 – 48), and a resource updater to update a resource reservation using the ECR, the booking factor and the estimated measured utilization factor (Column 6, line 60 – 67).

**Regarding claims 2, 14, 26, 38, and 50**, Aboul-Magd teaches the apparatus of claims 1, 13, 25, 37, and 49, wherein the descriptor includes a connection descriptor and a QoS descriptor (Column 2, lines 9 – 16).

**Regarding claim 3, 15, 27, 39, and 51**, Aboul-Magd teaches the apparatus of claims 2, 14, 26, 38, and 50, wherein the connection descriptor includes: at least one of a cell rate, a transport device speed, a queue depth, a cell loss ratio, and a link capacity (Column 5, lines 65 – 67; Column 6, lines 13 – 16).

**Regarding claims 4, 16, 28, 40, and 52**, Aboul-Magd teaches the apparatus of claims 3, 15, 27, 39, and 51, wherein the cell rate is one of a peak cell rate, a sustained cell rate, a maximum burst size, and a minimum cell rate (Column 2, lines 26 – 31).

**Regarding claims 5, 17, 29, 41, and 53**, Aboul-Magd teaches the apparatus of claims 4, 16, 28, 40, and 52, wherein the QoS descriptor is one of a constant bit rate, a real-time variable bit rate, a non-real-time variable bit rate, an unspecified bit rate, an available bit rate, and a guaranteed frame rate (Column 2, lines 26 – 31).

**Regarding claims 6, 18, 30, 42, and 54**, Aboul-Magd teaches the first estimator comprises: a scale factor generator to provide a scale factor, the scale factor generator comprising a look-up table having entries computed for the QoS descriptor, the entries being indexed by the connection descriptor; and a scaler coupled to the scale factor generator to scale the cell rate corresponding to the QoS using the scale factor, the scaled cell rate corresponding to the estimated ECR (Column 5, lines 47 – 57; where the CAC descriptors are considered map (look-up table) the admission request into one of the bandwidth pool that based handles the needs to the CAC descriptor).

**Regarding claims 7, 19, 31, 43, and 55**, Aboul-Magd teaches the apparatus of claims 6, 18, 30, 42, and 54, wherein the look-up table is one of a CBR look-up table and a VBR look-up table, the CBR look-up table corresponding to the CBR, the VBR look-up table corresponding to the VBR (Column 5, lines 47 – 57, where the second case of bandwidth pooling involves mapping the service classes into separate bandwidth pools and that classes are defined on Column 2, lines 26 – 31).

**Regarding claims 8, 20, 32, 44, and 56**, Aboul-Magd teaches the apparatus of claims 7, 19, 31, 43, and 55, wherein the CBR look-up table is indexed by a cell rate parameter and the transport device speed, the cell rate parameter being within a range from unity to the PCR (Column 2, lines 26 – 31).

**Regarding claims 9, 21, 33, 45, and 57**, Aboul-Magd teaches the apparatus of claims 8, 20, 32, 44, and 56, wherein the scale factor is one of the entries indexed by the cell rate parameter and the transport device speed (Column 5, lines 47 – 49; where the scale factor and mapping depends on classes and the classes depends on the CAC criterion, a scaled/weighted calculation of cell rates and speeds and QoS information).

**Regarding claims 10, 22, 34, 46, and 58**, Aboul-Magd teaches the apparatus of claims 7, 19, 31, 43, and 55, wherein the VBR look-up table is indexed by a first ratio between the queue depth and the MBS and second ratio between the link capacity and the PCR (Column 2, lines 26 – 31).

**Regarding claims 11, 23, 35, 45, and 59**, Aboul-Magd teaches the apparatus of claims 10, 22, 34, 46, and 58, wherein the scale factor is a weighted value from entries nearest to an entry corresponding to the first and second ratios when there is no exact match with at least one of the first and second ratios (Column 6, lines 1 – 11, where the CAC criterion classify the connection (Column 5, lines 47 – 49, but there may be more classes being issued to the same bandwidth pool based QoS needs of each the classes).

**Regarding claims 12, 24, 36, 48, and 60**, Aboul-Magd teaches the apparatus of claims 1, 13, 25, 37, and 49, wherein the second estimator comprises: a capacity estimator to estimate a minimum resource needed for the admitted connections meeting quality of service requirements within the measurement window; and a measured utilization factor generator coupled to the capacity estimator to generate the measured

utilization factor using the estimated minimum resource and measurement parameters (Column 5, lines 1 – 39).

***Response to Arguments***

Applicant's arguments filed July 5, 2006 have been fully considered but they are not persuasive.

The applicant argues that the reference, Aboul-Magd, does not disclose a controller to generate an admission decision based on the estimated ECR and the estimated measured utilization factor, an addition request processor that generates the admission decision based on a request resource using the ECR and the booking factor, or a resource updated to update a resource reservation using the ECR, the booking factor, and the estimated measured utilization factor.

The examiner disagrees, the reference teaches a controller to generate an admission decision (Figure 1, final step connection admitted or rejected) based on the estimated ECR (connection setup message/mathematical CAC) and estimated measured utilization factor (Network measurements). This is more clearly seen in (Column 6, line 22, where the equation shows that the connection request admission is calculated by using the ECR (EBRC) and the estimated measured utilization factor (u). The reference also teaches that the addition requests are processed (Figure 4) and given an admission decision based on the request resource (the measured network traffic, u, and the estimated traffic), the ECR (the computed EBRC), and the booking factor (ubf and obf). Finally, the reference also teaches an updated resource reservation using the ECR, booking factor, and the estimated measured utilization factor

is seen in Column 6, lines 60 – 67, where it shows the new connection request and its ECR are combined with the sum of the ECR's and the pool utilization of all the connections admitted to the network to create an entire map of resource usage.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Bates whose telephone number is (571) 272-3980. The examiner can normally be reached on 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB

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August 17, 2006

SALEH NAJJAR
SUPERVISORY PATENT EXAMINER